

# **Future Combat Systems**

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**Chief of Staff**

**Objective Force Task Force**

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# Future Combat Systems Concept Teams

## **The Boeing Team**



**The Boeing Company, Seattle, WA**  
New Definitions, Inc., Tacoma, WA  
Vector Research, Inc., Ann Arbor, MI  
Whitney, Bradley & Brown, Inc., Vienna, VA  
Signature Research, Inc., Calumet, MI  
National Institute of Standards and Technology (NIST),  
Gaithersburg, MD  
Rockwell Science Center, Thousand Oaks, CA  
Krauss-Maffei Wegmann (KMW), Germany

## **Team Full Spectrum**



**SAIC**  
United Defense, LP  
ITT Industries  
Northrop Grumman Corp  
Logistics Management Institute (LMI)  
SRI International  
Strategic Perspectives Inc.  
Omnitech Robotics International LLS  
University of Texas Center for Electromechanics  
VRI

## **Team Gladiator (Consortium)**



**TRW**  
Lockheed Martin  
CSC/Nichols Research  
Battelle Institute  
Carnegie Mellon  
IITRI/AB Technologies

## **Team FoCUS Vision (Consortium)**



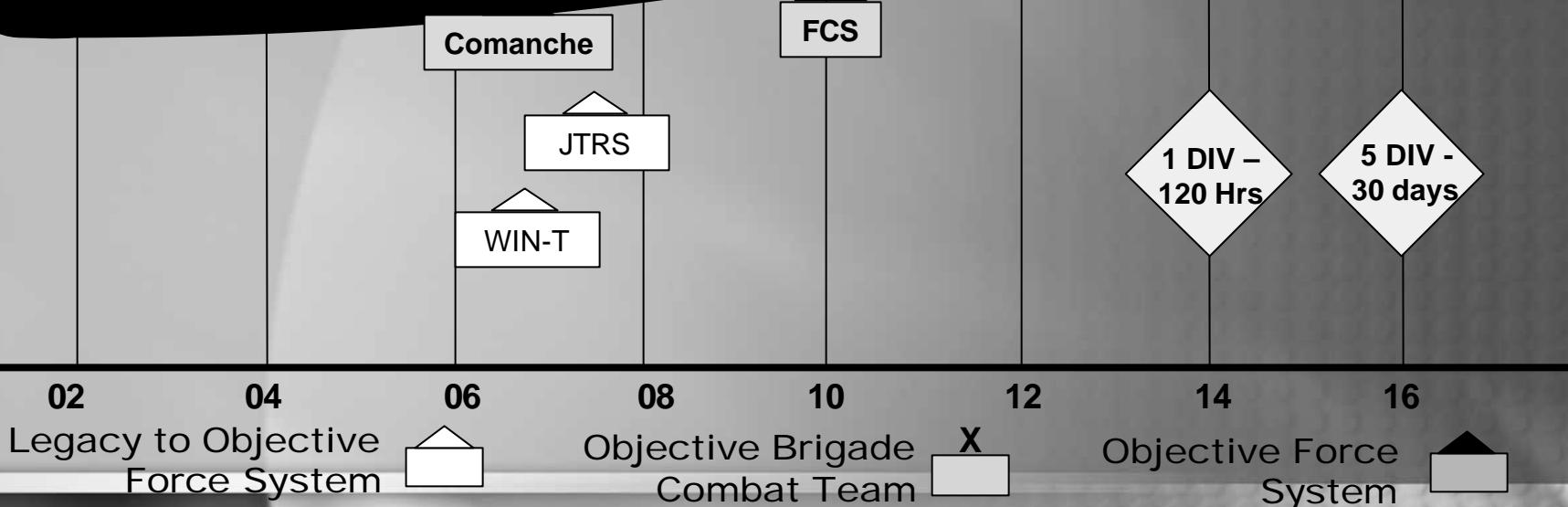
**Team FoCUS vision led by General Dynamics Land Systems Inc., Sterling Heights, Michigan and Raytheon Company, Plano, Texas.**

*Other participants with GDLS and Raytheon include:*

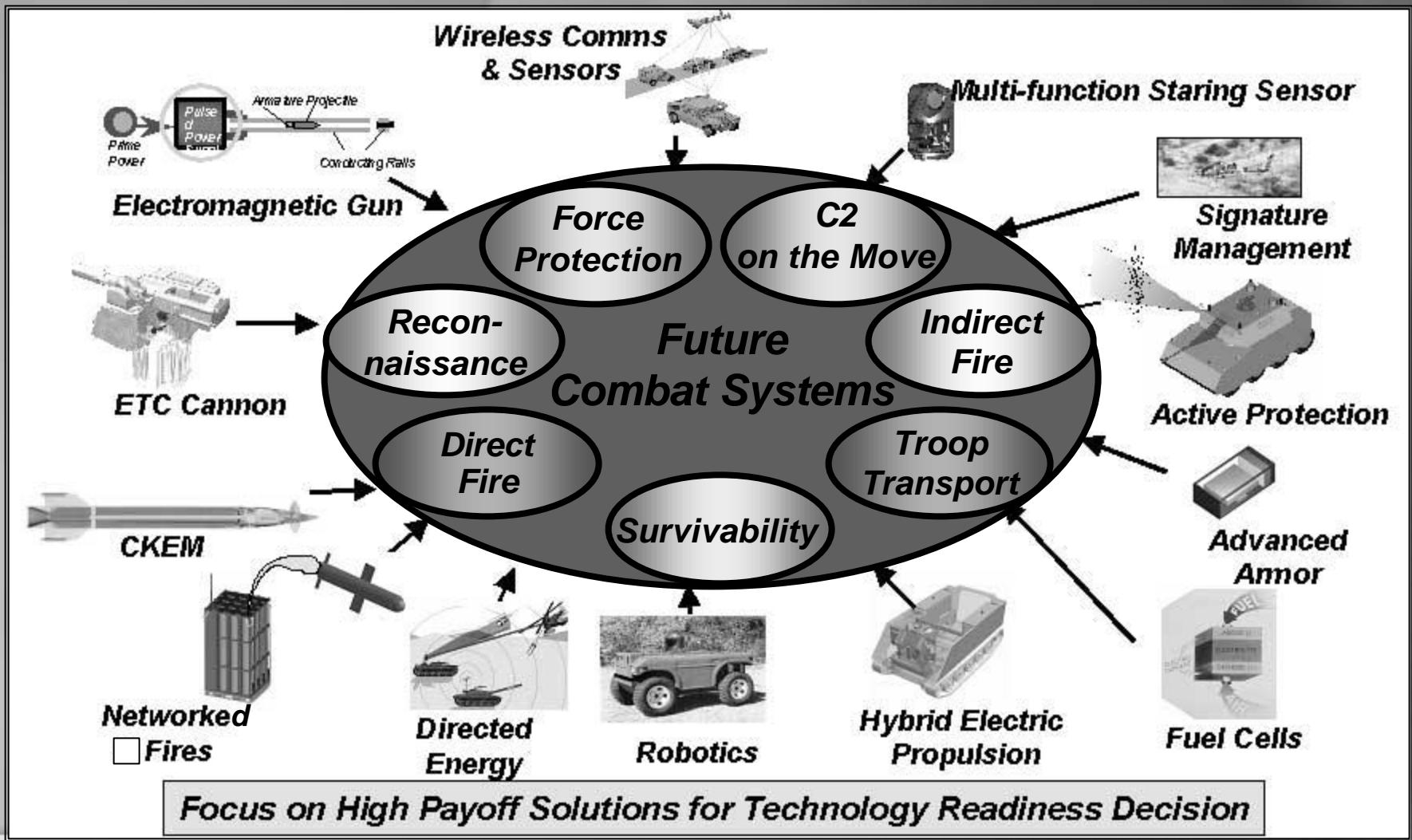
Aurora Flight Sciences  
Carnegie-Mellon University  
Honeywell  
Maxwell Physics International  
Stanford Research Institute International  
Sensis  
Sensor.com Wireless Integrated Network Sensors  
Whitney Bradley & Brown Inc.  
Los Alamos National Laboratory

# Achieving Objective Force Capability

- Operational Concept
- Training Plan
  - Unit Training
  - Individual Training
- Warfighting Doctrine
- Architectures
- Experimentation Plan

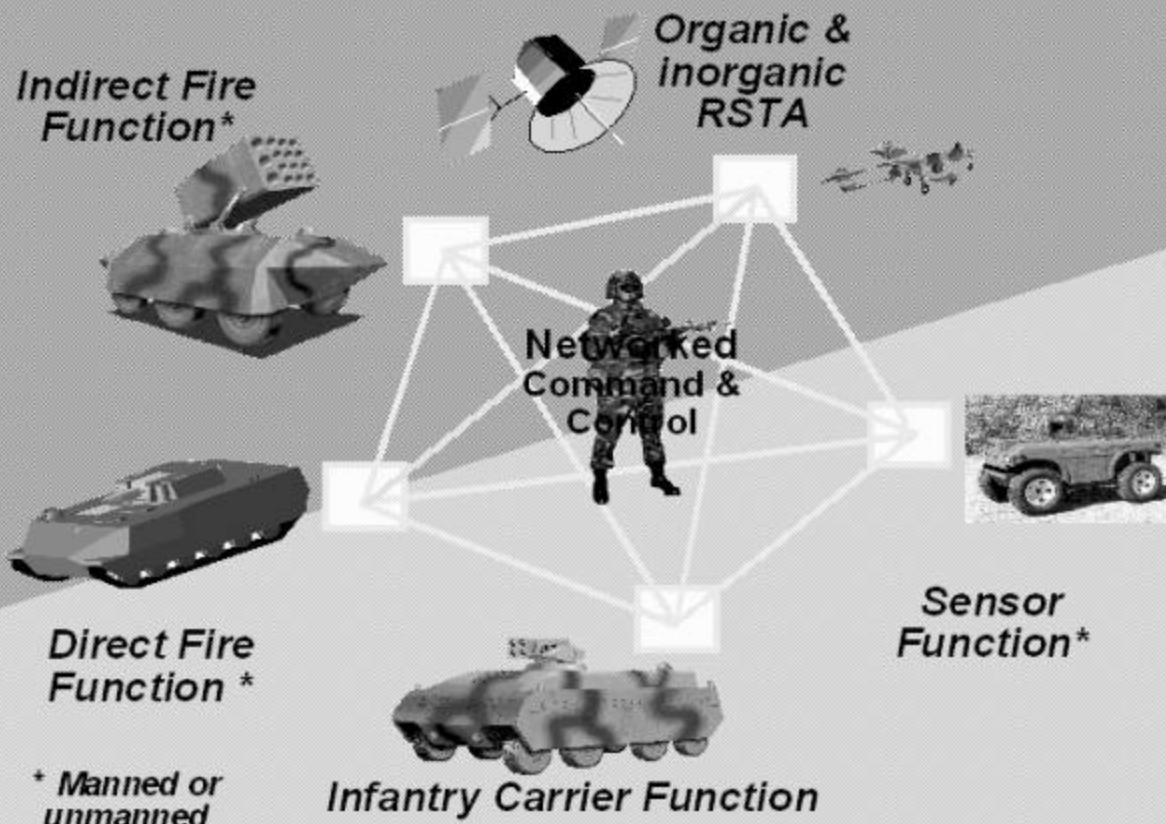


# Develop Fullest Range of Technology Options for FCS



# *How Do We Get There A Partnership with DARPA*

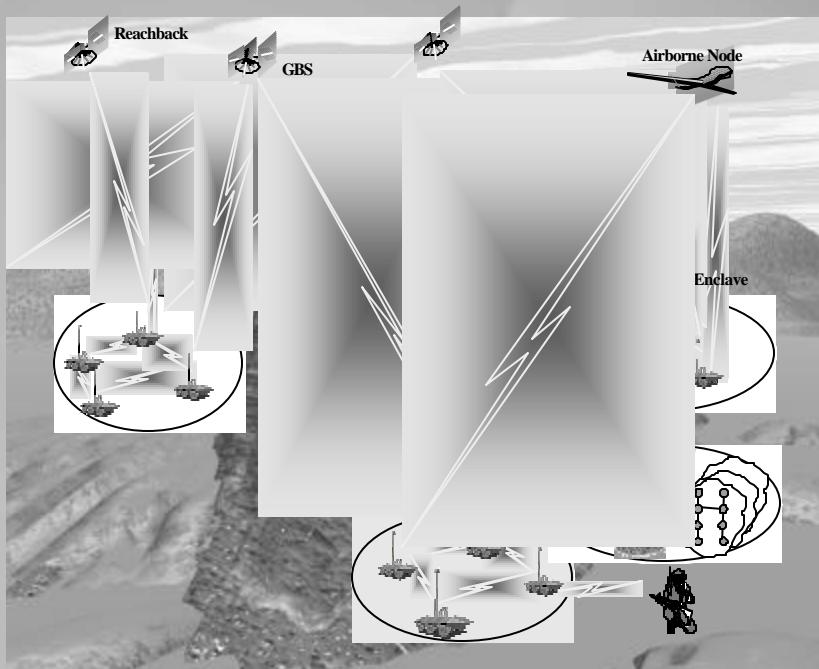
## *DARPA – 3 Functions*



## *Army – Remaining Functions*

# **C4ISR Overview – Role in the Force**

## **C4ISR**



**Means to  
achieve**

**INFORMATION  
SUPERIORITY**

**Enabling  
key oper-  
ations**

**DEPLOYABLE  
VERSATILE  
LETHAL  
AGILE  
SUSTAIN  
SURVIVE  
RESPONSIVE**

# Objective Force Linkage

Comanche initiates the process of enabling these concepts and FCS will round out the process

## See First

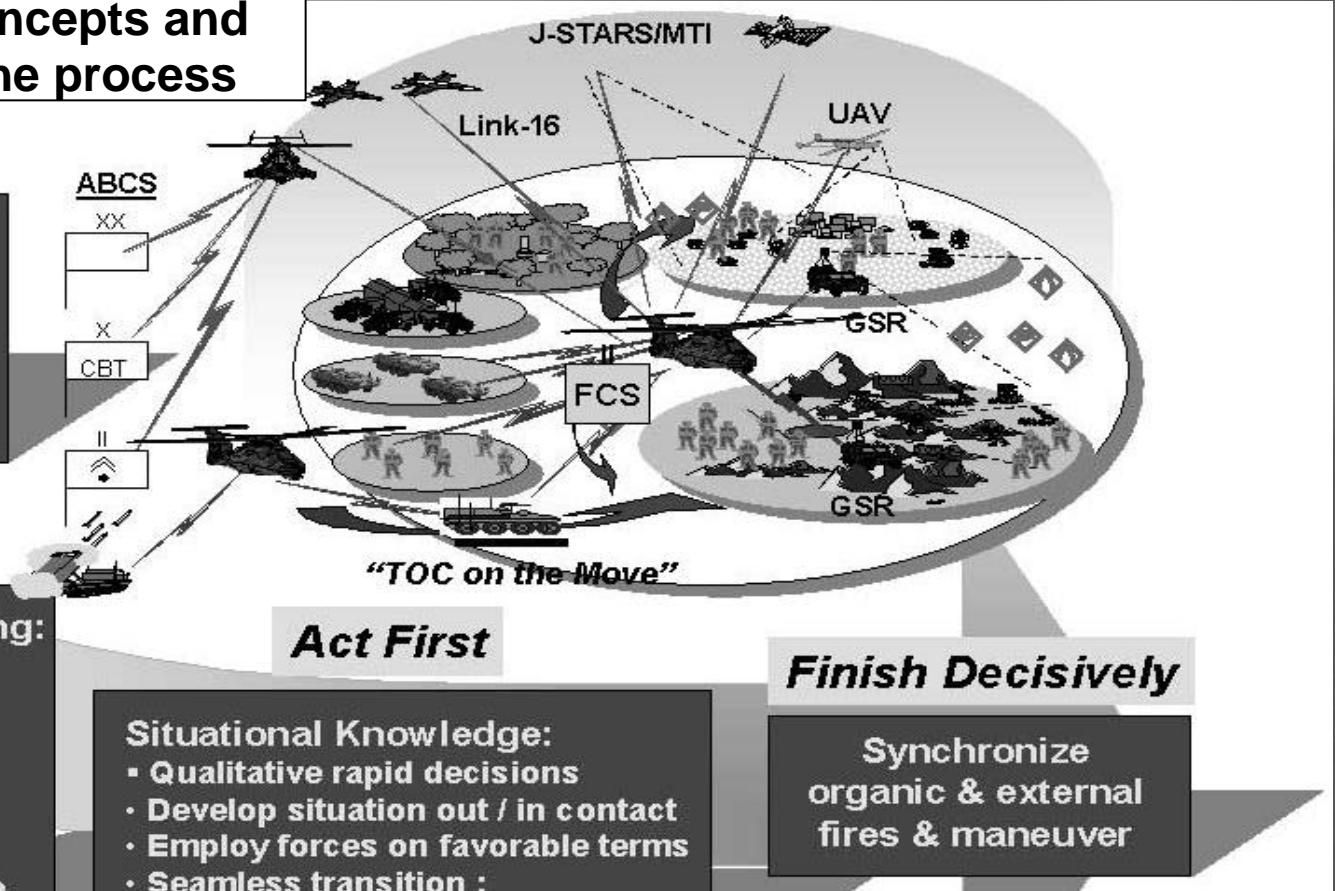
**Situational Awareness:**

- Onboard Sensors
- External Sensors
- Data Collection
- Reporting
- See parts / aggregate / environment

## Understand First

**Situational Understanding:**

- Sensor Fusion
- Aggregate Display
- Analysis
- Interaction
- Connectivity
- Highlight Vulnerabilities
- See the pattern / anticipate



## Act First

**Situational Knowledge:**

- Qualitative rapid decisions
- Develop situation out / in contact
- Employ forces on favorable terms
- Seamless transition :

## Finish Decisively

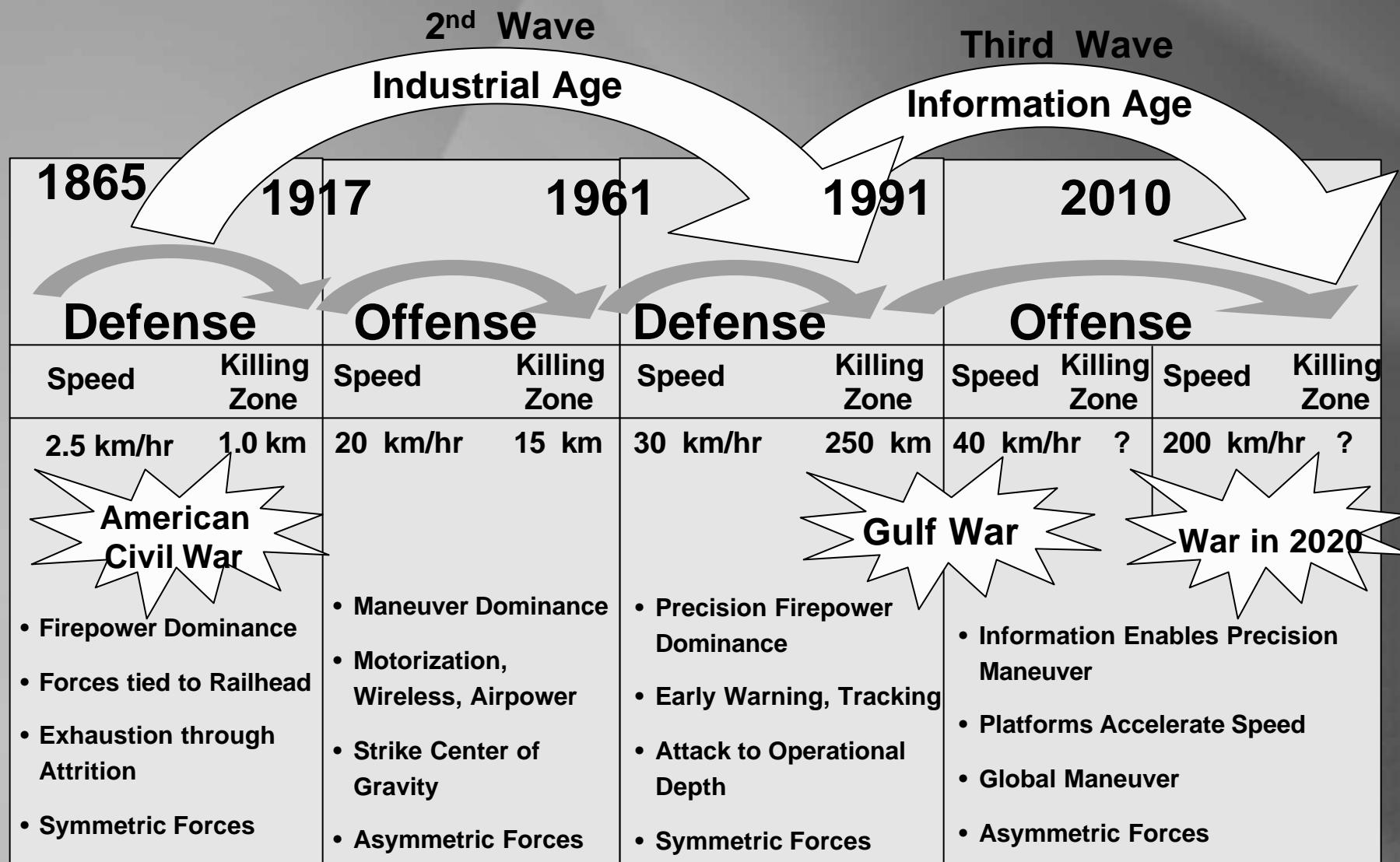
Synchronize organic & external fires & maneuver

# Challenge to the Team

- **Provide C4ISR Systems that give the commander a truly shared and fused Common Operating Picture.**
  - To achieve that we require sensor and data fusion on a near real time basis.
  - Integrated sensor suites
- **BLOS Fires**
- **Historically SU was an Art. We must turn it into science**

# Backup

# Changes in the Art of War Follow Technology Driven Cycles



Reference: [Future Warfare](#), MG Robert H. Scales, Jr., Strategic Studies Institute, 1999